



Missouri Weekly Influenza Surveillance Report 2015-2016 Influenza Season¹

Week 11: March 13 – March 19, 2016

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri remained at Widespread² for the second consecutive week.
- A season-to-date total of 11,300 laboratory-positive³ influenza cases have been reported in Missouri. The influenza type for reported cases season-to-date includes 76% influenza A, 21% influenza B, and 3% untyped. Influenza A accounted for 78% of reported cases during Week 11 and remains the predominant virus type reported this season. The highest season-to-date rates of reported laboratory-positive influenza cases are among children aged 0-4 years (597 cases per 100,000 population) and children aged 5-14 years (295 cases per 100,000 population). One laboratory-confirmed influenza cases of influenza A (H1N1) was reported by the Missouri State Public Health Laboratory (MSPHL) during Week 11.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized six influenza isolates from Missouri, to date, this influenza season. Two viruses were antigenically similar to the A/Switzerland/9715293/2013-like (H3N2) virus and four viruses were antigenically similar to the A/California/7/2009-like (H1N1)pdm09 virus. Both an A/Switzerland/9715293/2013-like virus and an A/California/7/2009-like virus are included in the 2015-2016 Northern Hemisphere vaccine formulation.
- Influenza-like illness activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and for the hospital emergency room visit chief complaint data reported through ESSENCE during Week 11. The reported percentage of visits for ILI was 3.03% and 1.66% through ILINet and ESSENCE respectively⁴.
- No influenza-associated pediatric deaths have been reported in Missouri, to date, this influenza season. During Week 10, 70 deaths were reported involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,550 P&I associated deaths in Missouri⁵.
- Three influenza or ILI-associated outbreaks have been reported in Missouri, to date, this influenza season. No influenza or ILI-associated school closures have been reported in Missouri, to date, this influenza season.
- Influenza activity increased in the U.S. during Week 10. National influenza surveillance information is prepared by the CDC and is included in the weekly FLUVIEW report, which is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

¹The 2015-2016 influenza season in Missouri began CDC Week 40 (week ending October 10, 2015) through CDC Week 20 (week ending May 21, 2016).

²Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

³Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

⁴Influenza-like Illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. Influenza-like Illness (ILI) is defined by ESSENCE as Emergency Department chief complaints that contain keywords such as “flu”, “flulike”, “influenza” or “fever” plus “cough” or “fever” plus “sore throat”.

⁵The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The county specific influenza data are provided through interactive maps available at <http://on.mo.gov/22w10yC>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 11
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

Data Tables and Graphs

Table 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 11 (March 3 – March 19, 2016)

Influenza Type	Week 9	Week 10	Week 11	2015-2016* Season-to-Date
Influenza A	1,586	1,998	1,163	8,565
Influenza B	391	515	299	2,422
Influenza Unknown Or Untyped	42	61	25	313
Total	2,019	2,574	1,487	11,300

[†]Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

*Influenza Season begins Week Ending October 10, 2015 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Table 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 11 (March 3 – March 19, 2016)

Age Group	Week 11 Cases	Week 11 Rate [‡]	2015-2016* Season-to-Date	2015-2016* Season-to-Date Rate [‡]
00-04	318	84	2,249	597
05-14	321	41	2,310	295
15-64	748	19	5,844	147
65+	100	11	897	99
Total	1,487	25	11,300	187

[†]Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

*Influenza Season begins Week Ending October 10, 2015 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

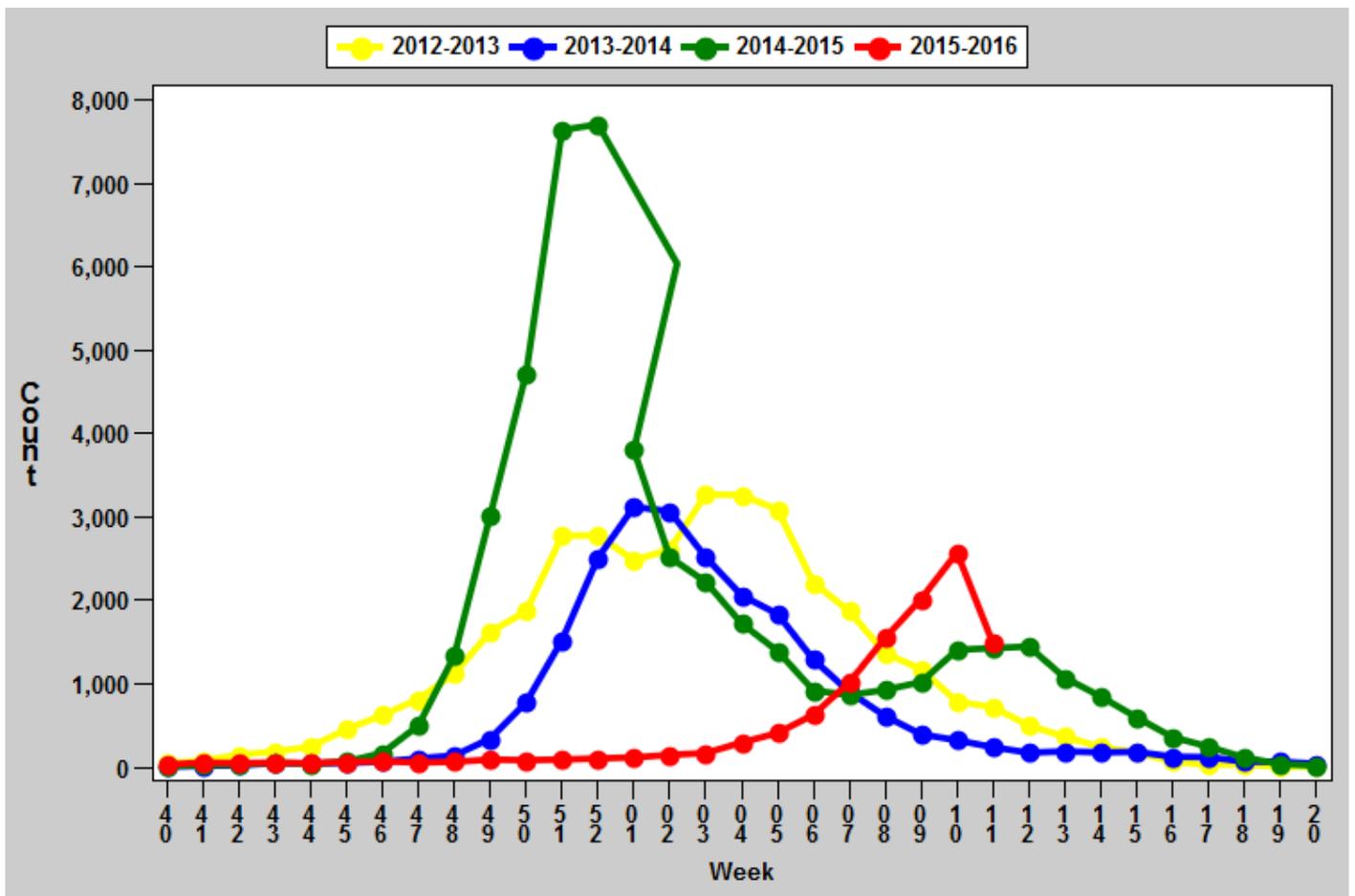
[‡]Incidence Rate per 100,000 population

Table 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 11 (March 3 – March 19, 2016)

District	Week 11 Cases	Week 11 Rate [‡]	2015-2016* Season-to-Date	2015-2016* Season-to-Date Rate [‡]
CE	110	17	1,306	198
EA	804	36	4,232	188
NW	336	21	3,687	233
SE	145	30	743	156
SW	92	9	1,332	124
Total	1,487	25	11,300	187

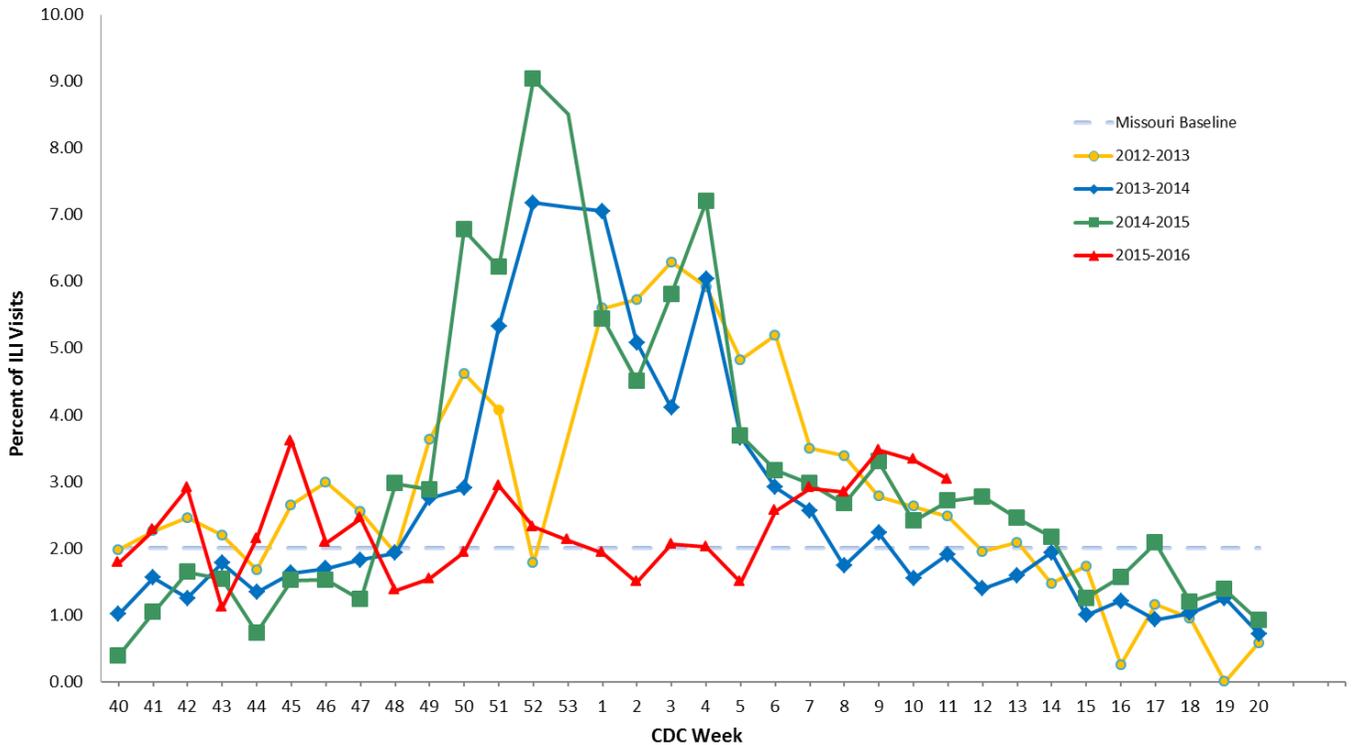
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^{*}Influenza Season begins Week Ending October 10, 2015 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡] Incidence Rate per 100,000 population

Graph 1. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2012-2016*



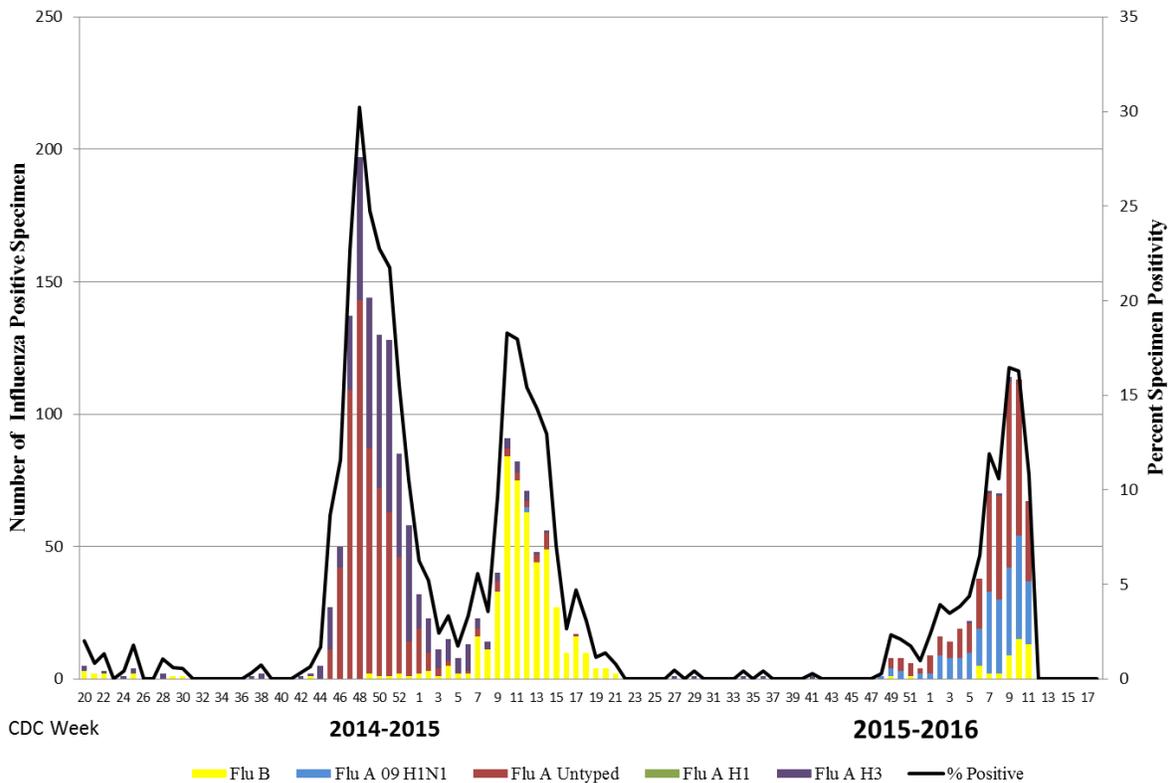
[†] Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
^{*}2015-2016 Season-to-Date through the week ending May 21, 2016 (Week 20). 2014-2015 Season had 53 weeks rather than the usual 52. Data Source: Missouri Health Information Surveillance System (WebSurv).

Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2012-2016*



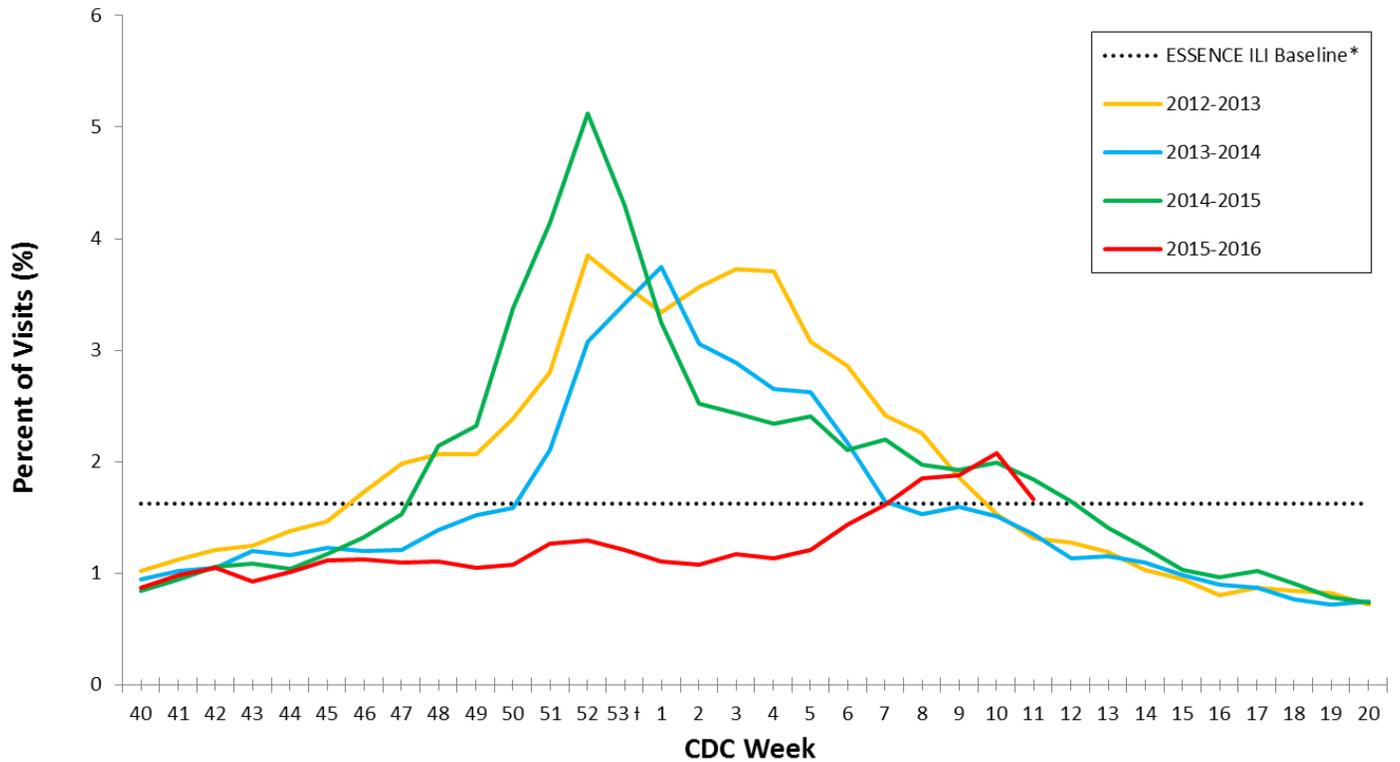
*2015-2016 Season-to-Date through the week ending May 21, 2016 (Week 20). 2014-2015 Season had 53 weeks rather than the usual 52.

Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests



*Data Source: St. Louis Children's Hospitals
 *This data is based on testing in all age groups in St Louis Metro and SE Missouri
 *Influenza Season begins Week Ending October 10, 2015 (CDC Week 40)

Graph 4. Weekly Percentage of Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, for 2012-2016 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 120 reporting facilities in Missouri ESSENCE (<http://health.mo.gov/data/essence/pdf/missourimap.pdf>).

* The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2012-14) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

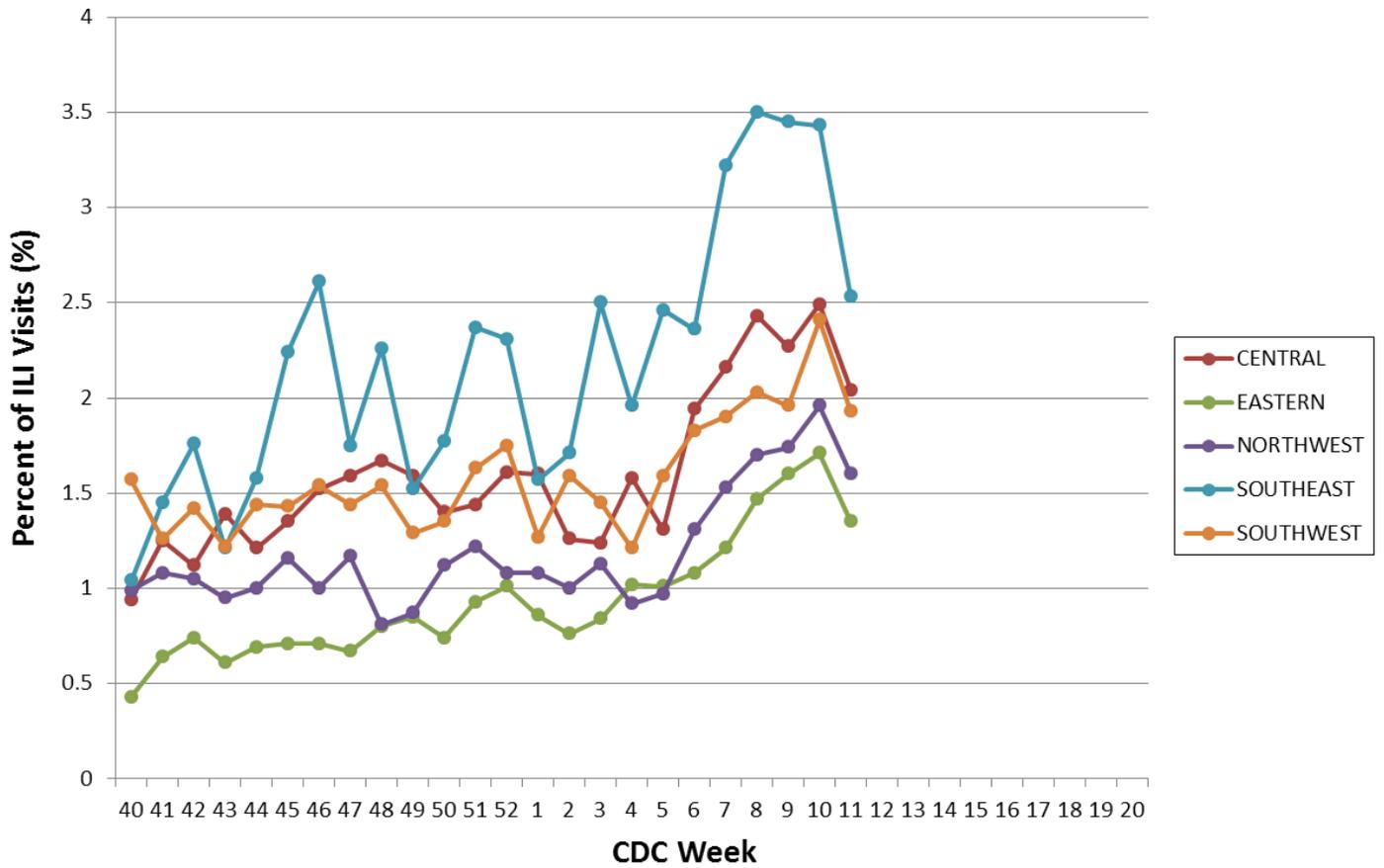
† ILI % for week 53 was estimated for previous seasons by averaging values for weeks 52 and 1 in order to compare to the ILI % for week 53 of the 2014-15 influenza season.

Table 4. Percentage of Influenza-like Illness (ILI) Visits per Total Visits to Hospital Emergency Rooms from ESSENCE by District and Statewide for Week Ending March 19, 2016

District	Age 0-4 (%)	Age 5-17 (%)	Age 18-44 (%)	Age 45-64 (%)	Age 65+ (%)	Total Percentage
Northwest	2.61	2.77	1.52	1.54	0.37	1.60
Central	6.27	1.70	1.85	1.60	0.88	2.04
Eastern	3.26	1.84	1.26	1.24	0.42	1.35
Southeast	9.58	5.62	1.59	0.94	1.23	2.53
Southwest	6.60	4.17	1.25	0.88	0.61	1.93
Statewide	4.21	2.76	1.42	1.28	0.56	1.66

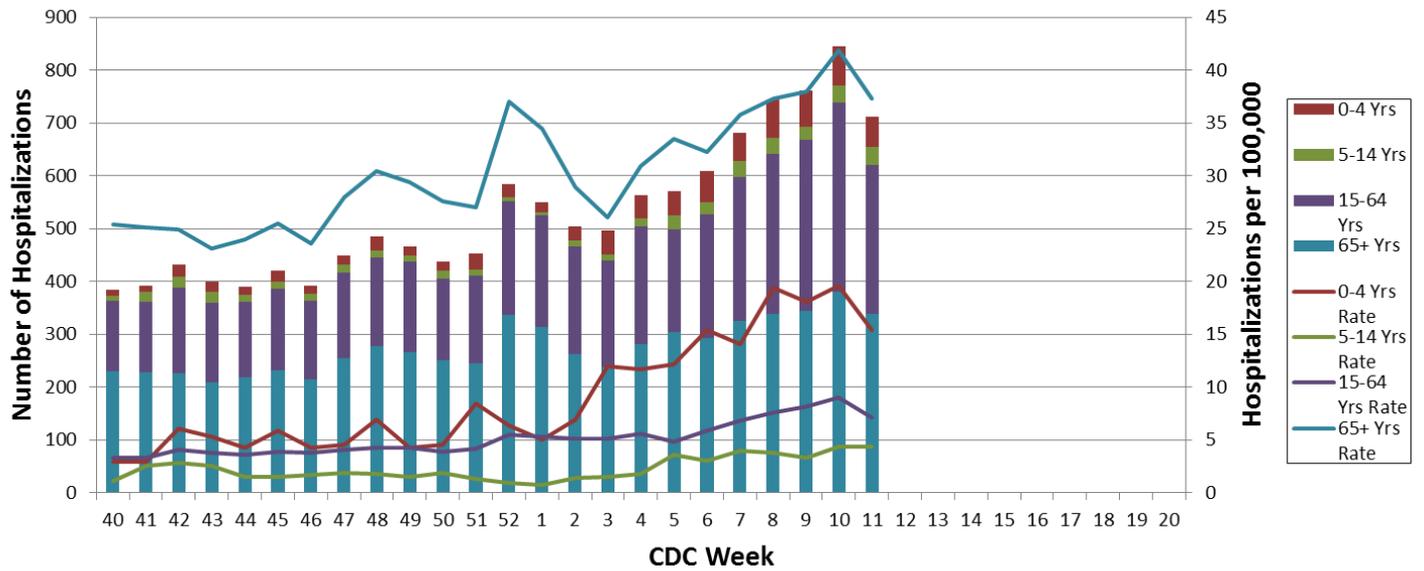
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 120 reporting facilities in Missouri ESSENCE (<http://health.mo.gov/data/essence/pdf/missourimap.pdf>).

Graph 5. Percentage of Influenza-like Illness (ILI) Visits per Total Visits to Hospital Emergency Rooms from ESSENCE by District for Week Ending March 19, 2016



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 120 reporting facilities in Missouri ESSENCE (<http://health.mo.gov/data/essence/pdf/missourimap.pdf>).

Graph 6. Patients Hospitalized with Influenza and/or Pneumonia Syndromes from Participating Missouri Hospitals, by Age Group, Week Ending March 19, 2016



Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 120 reporting facilities in Missouri ESSENCE (<http://health.mo.gov/data/essence/pdf/missouri-map.pdf>). Population data from DHSS Population MICA 2014 (<http://health.mo.gov/data/mica/mica/population.php>).

Additional Influenza Data Sources:

St Louis Children’s Hospital Laboratory: <http://slchlabbtestguide.bjc.org/Default.aspx?url=84386e6f-8f61-4fdf-8808-44f7559c6357>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW) <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance: http://www.who.int/influenza/surveillance_monitoring/en/